

[RAIL TO RAIL DUAL SLOPE ADC]

Abstract

A rail to rail dual slope analog to digital converter (ADC) is provided in the present invention. The circuit scheme has an input stage, an integrator stage, and a comparator stage, where an operational amplifier (OPAMP) can be comprised of each stage respectively. The positive input of the integrator OPAMP coupling to an analog ground , and switching the negative feedback loop of the input stage between an input voltage, a reference voltage, and a short circuit, controlling a plurality of switches among circuit connections results in different phases of the dual slope ADC. A finer resolution is thus obtained according to rail to rail input voltage range. Also, the integrator OPAMP can be eliminated from the circuit of the present invention in order to reduce pins, with connecting an end of the external integrator capacitor to ground.